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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/003,312 | 12/06/2001 | Katsuaki Isobe | 001701.00129 | 7010 |

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EXAMINER

LUU, AN T

ART UNIT PAPER NUMBER

2816

DATE MAILED: 12/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,312

Applicant(s)

ISOBE ET AL.

Examiner

An T. Luu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/505,204.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, limitation “changing the pulse width”, line 3, is misdescriptive because a clock inverter 201, as shown in figure 28, is for delaying the process of inverting a signal. Clock inverter 201 cannot perform a function of “changing the pulse width”. Therefore, limitation “direction”, being understood as shorten or lengthen the pulse, does not make any sense in the context of claim. Further, limitation “a preceding stage” is not clearly understood because there is only one delay stage recited in claim. It is still unclear if, for the sake of argument, there was more than one stage delay unit because there is no preceding stage with respect to the first delay stage.

As to claims 6 and 11, they have the same problems as noted in claim 1.

Claims 2-5, 7-10 and 12-15 are rendered indefinite by the deficiencies of the independent claims noted above.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, to the extent to be understood, are rejected under 35 U.S.C. 102(b) as being anticipated by the Park reference (U.S. Patent 5,708,382).

Park discloses in figure 1 an apparatus comprising a clock inverter 31 for *inverting* a first pulse signal Q1 is supplied,; and a logic gate (NOR 32) receiving a the inverting signal of the first pulse signal and a second clock signal Q2 as required by claims 1 and 2.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Park reference (U.S. Patent 5,708,382).

Park discloses all the claim invention except for explicitly showing a NAND gate in his logic circuit. However, it is known in the art that NAND and NOR logic gates are used to change a duty cycle of a signal (i.e., changing pulse width) in which NAND gate is commonly used for lengthen the pulse wherein NOR gate is commonly used for shorten the pulse. Therefore, it would have been obvious to one skilled in the art to replace a NOR gate with a NAND gate, or vice versa, in Park inventive circuit so that the pulse width would be changed to a desired width to meet the requirement of application.

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7. Claims 4 and 5-10, to the extent to be understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over the Park reference (U.S. Patent 5,708,382) in view of the D'Souza et al. reference (U.S. Patent 5,605,270).

Park discloses all the claimed invention including a delay circuit comprising series connected inverters. Park does not disclose an inverter having a specifically configuration as recited in claim 4 and 5 of the instant application. D'Souza et al discloses in figure 3 an inverting apparatus comprising NMOS and PMOS transistors having different channel widths (i.e. 20 vs. 0.6) and a ratio of the driving capability of the PMOS transistor to that of the NMOS transistor is different from one and the rise time of a pulse signal is different from a decay time of the pulse signal (i.e., 20/0.6 for PMOS and 10/0.6 for NMOS). It would have been obvious to one skilled in the art to replace a generic delay circuit in Park with series-connected inverters each having a series-connected PMOS and NMOS transistors as taught by D'Souza. A skilled artisan would have been motivated to combine these arts to reduce current leakage and to improve noise immunity.

As to claim 6, the scope of claim is similar to combination of claims 1 and 4. Therefore, it is rejected for the similar reasons set for above. It is noted that CLK and CLKB are for controlling the inverter 10.

As to claims 7-10, the scopes of these claims are similar to those of claims 2-5, respectively. Therefore, they are rejected for the similar reasons set for above.

Response to Arguments

8. Applicant's arguments with respect to claim 12-23-02 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

9. Claim 11 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

10. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to disclose an apparatus comprising elements being configured as recited in claim 11. Specifically, none of the prior art teaches or fairly suggests limitations “a first delay line”, “a second delay line” and “a state holding section”.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

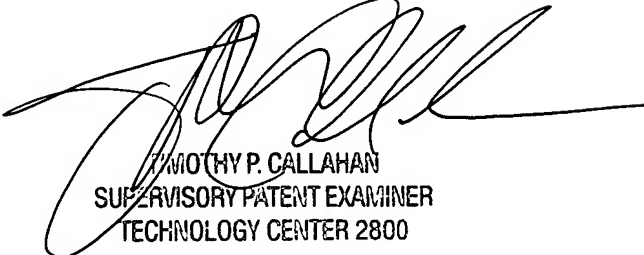
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to An T. Luu whose telephone number is 703-308-4922. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on 703-308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

An T. Luu 
December 26, 2002


TIMOTHY P. CALLAHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800